

CASE REPORT

Bilateral Carotid Body Tumours Presenting with Accessory Nerve Palsy

A. J. Clark and R. T. A. Chalmers*

Department of Vascular Surgery, Royal Infirmary of Edinburgh, U.K.

Introduction

Carotid body tumours (CBT) most commonly present as a painless swelling in the neck. More unusual presenting symptoms are due to local pressure effects including dysphagia, dyspnoea, and cranial nerve dysfunction. Accessory nerve palsy, usually of iatrogenic aetiology, is debilitating and can be painful. We describe a patient with bilateral CBTs presenting with accessory nerve palsy, with resolution following tumour resection. To our knowledge, this is the first such case reported.

Case Report

A 63-year-old man presented with a two-year history of a painless bilateral neck masses, voice hoarseness and bilateral shoulder pain and weakness. Following investigation and open biopsy by the otolaryngologists, a diagnosis of bilateral carotid body tumours was made, and the patient referred to the vascular service. Angiography confirmed the diagnosis (Fig. 1). Clinical examination revealed bilateral accessory nerve palsies, with marked trapezius wasting on the right (Fig. 2).

Elective right-sided CBT resection was performed initially. Despite dense scarring from the previous biopsy, the vagus, glossopharyngeal and hypoglossal nerves were identified and protected throughout the procedure. The accessory nerve was not identified. The carotid vessels were isolated but not clamped and

the tumour was enucleated in the subadventitial plane and haemostasis secured. On the second postoperative day the patient volunteered that he had regained full movement of his right shoulder. Clinical examination



Fig. 1. Selective carotid arteriogram demonstrating right-sided carotid body tumour.

*Please address all correspondence to: R. T. A. Chalmers, Department of Vascular Surgery, Royal Infirmary of Edinburgh, Lauriston Place, Edinburgh, EH3 9YW, U.K.



Fig. 2. Pre-operative right-sided trapezius wasting.

revealed resolution of his right-sided accessory nerve palsy. At review he retained normal right trapezius and sternocleidomastoid function and post-operative right hypoglossal nerve palsy and hoarseness had resolved by 3 months. Indirect laryngoscopy showed vocal cord function to be normal.

Several months after the right-sided procedure, elective resection of the left-sided carotid body tumour was performed. Left-sided accessory nerve palsy was seen to resolve completely in the immediate post-operative period. Again there was temporary hypoglossal nerve palsy, resolved at follow-up. Histology of both CBTs showed benign characteristics.

Discussion

We describe a patient presenting with accessory nerve palsies secondary to bilateral CBTs, which resolved

completely following CBT resection. This is the first such reported case.

CBTs rarely present with cranial nerve palsy.¹ Reports in the literature are most commonly of hoarseness, although it is hard to attribute this to specific cranial nerve palsy. In one series, 16% of patients presented with cranial nerve palsy including glossopharyngeal and recurrent laryngeal nerve palsies.² Other documented cases include vagal, hypoglossal and sympathetic chain dysfunction^{3,4} but not accessory nerve palsy. Accessory nerve palsy is debilitating and may be painful. The majority of CBTs are benign (90%) and hence pre-operative palsy is likely to be produced by pressure rather than infiltration. Potentially a large CBT may cause pressure on the accessory nerve at the apex of the posterior triangle of the neck, as we believe occurred in the presented case.

It is well recognised that CBT resection can be associated with post-operative cranial nerve palsies but the majority of these are temporary.^{1,3,5} Tumour resection is the only treatment for pressure related cranial nerve palsy, as seen in the case presented here.

References

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